ABSTRACT OF THE DISCLOSURE

A method for decoding data that has been encoded in a monochrome medium utilizing the capability of the medium for grayscale resolution. A document is processed to provide an image in electronic format, in which each pixel has an assigned data value with a given bit depth. A mapping operation is performed for generating a monochrome data word (120), preferably having a reduced bit depth. The monochrome data word (120) can be used to encode multiple data fields (114, 116, 118). A printer (92) then produces a preserved document record (90) in which the appropriate monochrome data word (120) determines the grayscale value for each pixel. To decode the stored data, a scanner (86) is employed to obtain the grayscale value from the preserved document record (90). For each pixel, the grayscale value is then decomposed into multiple data fields (114, 116, 118), which can then be decoded to provide the information that was originally encoded.

15

10

5